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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,549	02/05/2004	Hiroyuki Atarashi	248481US8	2802
22850	7590	07/10/2007	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				ETTEHADIEH, ASLAN
ART UNIT		PAPER NUMBER		
2611				
NOTIFICATION DATE			DELIVERY MODE	
07/10/2007			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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SF

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/771,549	ATARASHI ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Aslan Ettehadieh	2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 06 June 2007.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12 and 20-31 is/are pending in the application.  
 4a) Of the above claim(s) 13-19 and 32-38 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-12 and 20-31 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 05 February 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.<br><br>   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Invention I in the reply filed on 06/06/2007 is acknowledged. The traversal is on the ground(s) that search and examination of the entire application would not place a serious burden on the Examiner. This is not found persuasive because claims 1 – 12 and 20 – 31 are classified in class 375, subclass 146, claims 13 – 14 and 32 – 33 are classified in class 375, subclass 355, and claims 15 – 18 and 34 – 38 are classified in class 375, subclass 141 and the search and examination of the entire application would place a serious burden on the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 20 is rejected under 35 U.S.C. 101 because claim 20 calls for a program.

A claim would be functional and statutory when rewritten with the correct claim

language according to the 101 intern guidelines of patent applications for patentable subject matter eligibility (starting on page 50), a program for instance needs to be on a computer readable medium. The claimed program needs to be stored or encoded on a computer readable medium, and thus the claim is not statutory. See Diehr, 450 U.S. at 191, 209 USPQ at 10 and Benson, 409 U.S. at 71-72, 175 USPQ at 676.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 20 – 21 (and dependent claims 2 – 19 and 22 – 31) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Regarding claims 1, 5, 20 – 21, and 27 (and dependent claims), the first limitation is vague and indefinite because *performing* is not defined. To generate one or a plurality of predetermined chip patterns by performing ship repetition to a spreading chip, the performing function is not defined. Also, in the claims, when performing is indefinite, the claim need to be written for a when not performing because the limitation of when performing does not need to be address because the function of not performing is not defined. For instance in claims 5 and 27, the multiplexing only occurs when the performing occurs, but when performing is not done, the multiplexing function is not necessary.

7. Regarding claims 1 and 20 – 21 (and dependent claims), the second limitation of claim 1 is vague and indefinite, there is a function of multiplication but what is being multiplied to the signal, it be a value of 1. The limitation can read that a multiplying unit multiplies anything to a signal, as long as the signal comprises said predetermined chip pattern one or a plurality of phases specific to said mobile station. Further, the limitation is also vague because there is a lack of transitional language from *comprising said predetermined chip pattern to one or a plurality of phases specific to said mobile station.* In claims 20 – 21, the same applies as for the explanation in claim 1, however, it is also vague because there is a lack of transitional language from *comprising said predetermined chip pattern to a phase specific to said mobile station* (which is also seen in claim 3).

8. Regarding claim 8, the limitations of *path-standard type* and *same timing* are vague and indefinite. The terms are not clear as to what path-standard type and same timing have meaning to.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 – 8, 20 – 22, 26 – 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Shamsunder (US 2004/0085918).

10. Regarding claim 1, Shamsunder discloses a method of wireless transmission, wherein a mobile station which wirelessly transmits to a base station by DS-CDMA a signal which is spread by multiplying a spreading code, the method comprising: a chip-pattern generating step of generating a predetermined chip pattern by performing chip repetition to a spreading chip sequence for a predetermined number of repetitions (figure 1, paragraphs 1 – 3, 12, 24); and a multiplying step of multiplying to a signal comprising said predetermined chip pattern a phase specific to said mobile station (figure 1, paragraphs 20, 24, 30).

11. Regarding claims 2 and 22, Shamsunder further discloses said chip-pattern generating unit, in accordance with a data rate specified by the mobile station (paragraph 24), assigns to the mobile station at least one of one or a plurality of said chip patterns and one or a plurality of said phases (figure 1 elements 104, paragraphs 20, 21, 24).

12. Regarding claim 3, Shamsunder further discloses the multiplying unit multiplies to the signal comprising said predetermined chip pattern one or a plurality of phase sequences specific to said mobile station (figure 1 elements 104, paragraphs 20, 21, 24, 30).

13. Regarding claims 4 and 26, Shamsunder further discloses a variable controlling unit which variably controls at least one of a spreading factor of said spreading code and the number of chip repetitions, a scrambling code which is multiplied to the

spreading chip sequence, and the phase sequence specific to the mobile station (paragraphs 10, 24, 26); and an external controlling unit which controls, based on a set of controlling information, at least one of said spreading factor and number of chip repetitions, said scrambling code, and the phase sequence specific to the mobile station (paragraphs 24 – 26).

14. Regarding claims 5 and 27, Shamsunder further discloses a multiplexing unit (figure 1 element 112) which multiplexes a plurality of channels which are multiplied, when performing the chip repetition for the predetermined number of repetitions, by different spreading codes (paragraphs 2, 24), said mobile station performing, after said multiplexing, the chip repetition (figure 1, paragraphs 1 – 3, 12, 24).

15. Regarding claim 6, Shamsunder further discloses a transmission timing control unit which controls transmitting timings of transmitting signals so that timings of receiving at the base station from respective mobile stations coincide (paragraphs 10, 24 – 26).

16. Regarding claim 7, Shamsunder further discloses said transmission timing control unit comprises a low-precision timing control unit which controls said transmitting timings of the transmitting signals so as to contain time differences among the timings of receiving at the base station from the respective mobile stations (paragraphs 3, 10, 24 – 26, 29, 32 – 33; where coarse is being interpreted as low-precision).

17. Regarding claim 8, Shamsunder further discloses said transmission timing control unit comprises a path-standard type timing control unit which performs, based

on first paths, the transmission timing control so that said first paths are received at the base station at same timing (paragraphs 10, 24 – 26).

18. Regarding claims 11 and 29, Shamsunder further discloses a chip pattern length setting unit which sets, based on time difference at the base station of timings of receiving from respective mobile stations, length of chip pattern to which the chip repetition is performed for the predetermined number of repetitions (paragraph 24).

19. Regarding claims 20 – 21, Shamsunder discloses an apparatus and program for wireless transmission and for implementation into a mobile station which wirelessly transmits to a base station by DS-CDMA a signal which is spread by multiplying a spreading code, said apparatus and program comprising: a chip-pattern generating function of generating a predetermined chip pattern by performing chip repetition to a spreading chip sequence for a predetermined number of repetitions (figure 1, paragraphs 1 – 3, 12, 24); and a multiplying function of multiplying to the signal comprising said predetermined chip pattern a phase specific to said mobile station (figure 1, paragraphs 20, 24, 30).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. Claims 10 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shamsunder (US 2004/0085918) in view of Sawahashi et al. (US 2003/0053413).

21. Regarding claim s 10 and 28, Shamsunder does not disclose a guard interval inserting unit which inserts a guard interval per chip pattern to which the chip repetition is performed for the predetermined number of repetitions.

In the same field of endeavor, however, Sawahashi discloses a guard interval inserting unit which inserts a guard interval per chip pattern to which the chip repetition is performed for the predetermined number of repetitions (paragraph 113, figure 9).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use a guard interval inserting unit which inserts a guard interval per chip pattern to which the chip repetition is performed for the predetermined number of repetitions as taught by Sawahashi in the system of Shamsunder because guard intervals are used to ensure that distinct transmissions do not interfere with one another.

22. Claims 12 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shamsunder (US 2004/0085918) in view of Matsuoka et al. (US 2004/0008614).

23. Regarding claims 12 and 30, Shamsunder discloses a pilot channel (paragraph 24). Shamsunder does not disclose a pilot-signal transmitting unit which, after multiplexing to a transmitting signal a pilot signal having known amplitude and phase, performs said chip repetition.

In the same field of endeavor, however, Matsuoka discloses a pilot-signal transmitting unit which, after multiplexing to a transmitting signal a pilot signal having known amplitude and phase, performs said chip repetition (paragraph 5).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use a pilot-signal transmitting unit which, after multiplexing to a transmitting signal a pilot signal having known amplitude and phase, performs said chip repetition as taught by Matsuoka in the system of Shamsunder because pilot signals may provide purposes of control, equalization, synchronization, or reference.

***Allowable Subject Matter***

24. Claims 9 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and also the 112 rejections are overcome.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aslan Ettehadieh whose telephone number is (571) 272-8729. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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